



Monthly Newsletter

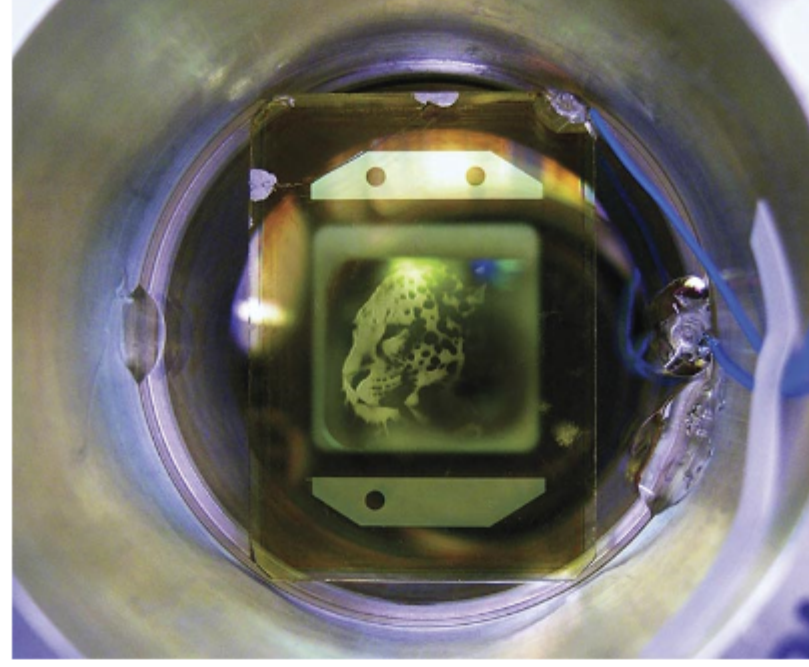
Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. [Photonics.com/subscribe](https://www.photonics.com/subscribe).



White Light Interferometry Returns Vital Measurement Values in a Single Shot

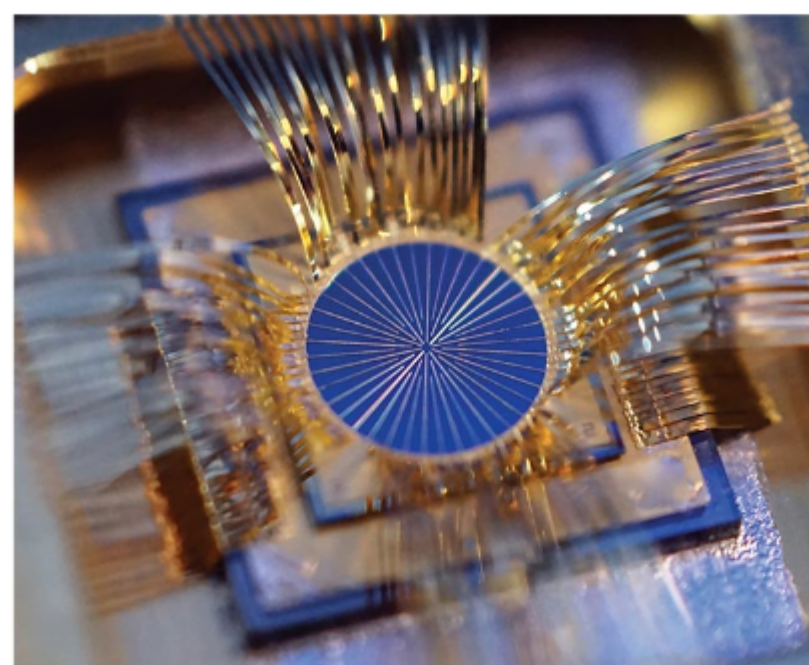
Obtaining accurate control over film thickness and uniformity is critical for applications ranging from optics, flexible electronics, and microelectromechanical systems manufacturing to semiconductor advanced packaging and energy technologies. Many methods — both contact and noncontact — are used to obtain film thickness

measurements. In terms of cost-effectiveness and speed of operation, white light interferometry offers considerable advantages to system designers and developers. [Read Article](#)



Beyond Displays, Liquid Crystal Optical Devices Harness Rugged Dynamics

The ability of liquid crystals to avoid certain critical size limitations that affect most solid crystals enables their usefulness for applications in precision optics. Their use in flat panel displays such as television screens and computer monitors demonstrates that liquid crystals do not face these size limitations. This allows them to be particularly effective as optical devices, enabling users to take advantage of important properties of laser light. [Read Article](#)

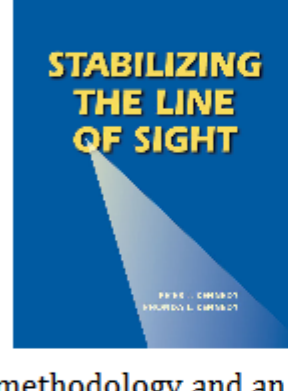


PCSELs May Redefine Diode Lasers in Industry and Lidar

The concept of diode lasers was born early in the age of laser technology and has come a long way. From a fragile, liquid nitrogen-cooled laboratory device, it has evolved into an integrated, highly energy-efficient laser system. Today, laser diodes are the fundamental solution in most laser materials processing devices. They also drive the internet, enable quantum research, and are a prerequisite for any laser fusion scheme. [Read Article](#)



Featured Products & Services



[Stabilizing the Line of Sight](#)

Photonics Media

In *Stabilizing the Line of Sight*, authors Peter J. and Rhonda L. Kennedy provide a methodology and an example for executing a successful end-to-end line-of-sight (LOS) design. Comprehensive in scope, this book will give readers a better understanding of the relationships between the various engineering disciplines that are required for successful LOS control.

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Looking for something else? Check the Photonics Marketplace.



In Case You Missed It

[Localized Optical Field Enhancement Improves Light-Matter Interaction](#)

Researchers demonstrated a mechanism for concentrating light at an extremely small scale, which can be used for a broad spectrum of wavelengths. The team, comprising scientists from Atomic and Molecular Physics, Delft University of Technology, and Cornell University, leveraged the topological properties of photonic crystals to concentrate light on a chip and achieve broadband localization of light. [Read Article](#)

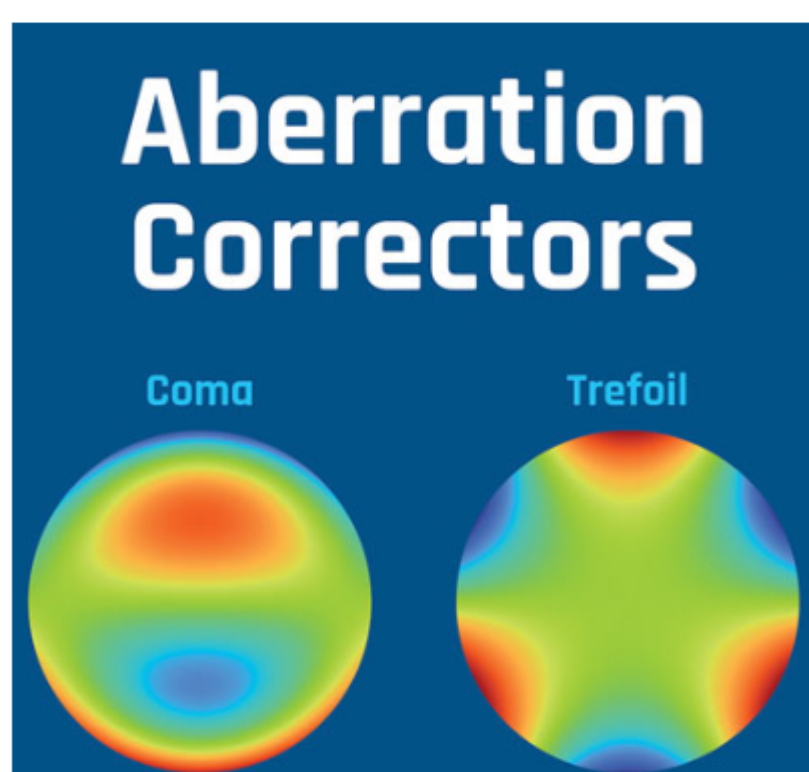
[Researchers Trick the Eye into Seeing New Color](#)

Using a technique called "Oz," scientists at the University of California, Berkeley, have found a way to manipulate the human eye into seeing a new color — a saturated blue-green color the team has named "olo." [Read Article](#)

[High-Voltage CMOS Backplane Enables Bright OLED Microdisplays](#)

Scientists at the Fraunhofer Institute for Photonic Microsystems IPMS have developed a high-voltage CMOS backplane that enables exceptionally bright OLED-based microdisplays. The approach allows for full color maximum brightness over 10,000 candela per square meter (cd/m²) without compromising lifespan or reliability. [Read Article](#)

Latest Webinars



Practical Aberration Correction Using Freeform Optics — Pushing the Boundaries of Laser System Performance

Thu, Jun 12, 2025 10:00 AM - 11:00 AM EDT

Many laser systems — whether they are for industrial, biomedical, or defense applications — are designed to create a well-defined output spot or beam; this is required for the laser process to be as efficient, productive, and effective as possible. Optical aberrations in the laser system (pointing, defocus, spherical, astigmatic, coma, etc.) come from a variety of sources and affect the extent to which the actual output spot (or beam) deviates from that of the design intent of the system. To compensate for aberrations, it is vital to make appropriate measurements of the aberrations, and then ideally represent them as Zernike coefficients. Then, it is possible to design a

freeform surface — using refractive principles — as a freeform aberration compensator. If the freeform surface can be designed and manufactured with a fast turnaround, the aberration compensator can be regarded as an "in-build" solution. By making the freeform in fused silica using a precision direct write laser machining process, it demonstrates the manufacture and testing of aberration compensators that have extremely low scatter and low loss. These fused silica freeform aberration compensators can therefore be used in either extreme high-power applications, e.g., laser inertial fusion, or extremely sensitive low-light applications, e.g., fluorescence microscopy and cytometry. Presented by PowerPhotonic.

[Register Now](#)

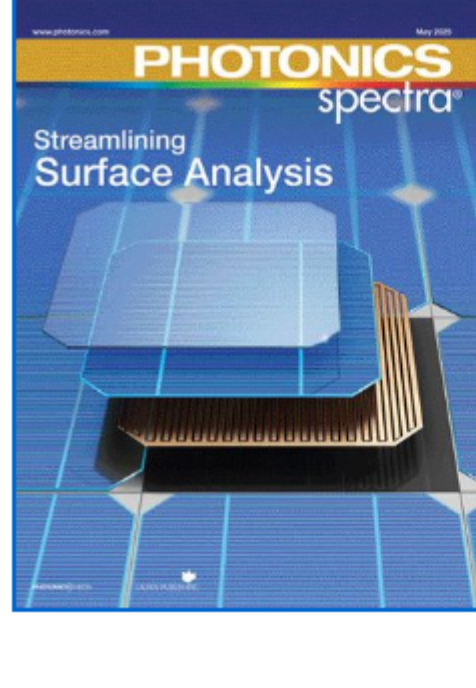
Next Issue:

Features

Ultraviolet Sources, A History of Lasers: Technology Roadmap, Lasers for Quantum, Ultrafast Laser Spectroscopy, Laser Micromachining, and Laser Fusion: A Luminary Perspective

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Jake Saltzman, Senior Editor, at jake.saltzman@photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

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